REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the present amendments and following discussion, is respectfully requested.

Claims 1-20 are pending in the present application. Claims 1-13 and 20 are amended by the present amendment. Support for the amended claims can be found in the original specification, claims and drawings.[1] No new matter is presented.

In the Office Action, Claims 1-12 and 20 were rejected under 35 U.S.C. § 101; Claims 7-10 and 17 were rejected under 35 U.S.C. §112, first paragraph; Claims 1-19 were rejected under 35 U.S.C. §103(a) as unpatentable over Hayashida (U.S. Pub. 2002/0019973 A1) in view of Goodwin et al. (U.S. Pub. 2003/0074654, herein Goodwin); and Claim 20 was rejected under 35 U.S.C. §103(a) as unpatentable over Hayashida in view of Goodwin and Curreri (U.S. Pat. 6,091,896, herein Curreri).

The Office Action rejected Claims 1-12 under 35 U.S.C. § 101 as directed to non-statutory subject matter. Particularly, the Office Action noted that Claims 1-12 recite a compiler, and asserted that "it appears that the compiler would reasonably be interpreted by one of ordinary skill in the art as software, per se." In response, Claims 1-12 are amended to recite a "computer-readable medium storing a program for compiling...," and are therefore directed to a tangible "computer-readable medium," which is recognized as statutory subject matter.

Further, Claim 20 was rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Specifically, the Office Action asserts that the claimed "system" could "reasonably be interpreted by one of ordinary skill in the art as software, per se." Applicant respectfully traverses this rejection.

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[1] E.g., specification, p. 14, ll. 9-18.

Generally, the "system" is not "software," per se. It is interpreted as the "system" meaning an invention of a "product," per se, by one of ordinary skill in the art (see, U.S. Patent Nos. 6,467,078, 6,735,764, etc.). That is, the "program development system" is a "product" (i.e. combination of hardware), which two or more tangible hardware components (the "compile apparatus" as hardware and the "simulator apparatus" as hardware) collaborate in order to achieve the desired end. Therefore, Applicant respectfully submits that the "program development system" of Claim 20, which includes "a compile apparatus" and a "simulator apparatus" as hardware components, is directed to statutory subject matter.

Accordingly, Applicant respectfully requests that the rejection of Claims 1-12 and 20 under 35 U.S.C. § 101, as directed to non-statutory subject matter, be withdrawn.

The Office Action rejected Claims 7-10 and 17 under 35 U.S.C. § 112, first paragraph, asserting that the newly added feature "plural kind of details of the processing operations can be defined for one intrinsic function" is not supported or described in the specification. Applicant respectfully traverses this rejection.

The claimed feature of "plural kind of details of the processing operations can be defined for one intrinsic function" is, for example, supported by p. 13, l. 3 p. 14, l. 8, and p. 21, ll. 21-26 of the specification. Specifically, p. 14, ll. 4-8 of the specification discloses that "[t]hus, since the re-definitions of the user-defined intrinsic function are enabled any number of times (any number of kinds), the code optimizer 16 of the compiler 10 can specify easily strings of the instructions to be optimized as the number of the re-defined definitions increases." Further, Figs. 5A-7C of the specification disclose specific examples of the "plural kind of details of the processing operations [that] can be defined for one intrinsic function." Thus, the claimed feature that "plural kind of details of the processing operations can be defined for one intrinsic function" is supported and/or described in the specification.

Accordingly, Applicant respectfully requests that the rejection of Claims 7-10 and 17

under 35 U.S.C. § 112, first paragraph, be withdrawn.

In the Office Action, Claims 1-19 were rejected under 35 U.S.C § 103(a) as

unpatentable over Hayashida in view of Goodwin. In response to this rejection, Applicant

respectfully submits that amended independent Claims 1, 13 and 20 recite novel features

clearly not taught or rendered obvious by the applied references.

Independent Claims 1 and 13, for example, are amended to recite, *inter alia*, that:

> a statement for explicitly calling the intrinsic function is
> not beforehand embedded in a body of the input source
> program since the definitions of the intrinsic function is placed
> independently of the input source program, and the program for
> compiling is built only once since changing the user-defined
> machine instructions does not require for rebuilding the
> program for compiling.

In an exemplary embodiment, the program for compiling generates no object code 2

from the descriptions of the user-defined intrinsic function, as shown in Figs. 5A-5B.

Therefore, the intrinsic function definition can be embedded to a header file of the input

source program 1. Or, as shown in Fig. 4, the intrinsic function definition is stored in a file

(intrinsic function information file 3) different from the input source program 1, and then the

program for compiling (syntax analyzer 12) can also read and compile the definition of the

user-defined intrinsic function from the intrinsic function information file 3. Then, the

program for compiling is built only once since changing the user-defined machine

instructions does not require for rebuilding the program for compiling.

Applicant respectfully submits that Hayashida and Goodwin, neither alone, nor in

combination, teach or suggest the above-mentioned feature recited in each of amended

independent Claims 1 and 13.

As an initial matter, in Hayashida and Goodwin, it is necessary to rewrite the user

application program so that the intrinsic function of the machine instruction must be used for

the body of user application program. That is, in <u>Hayashida</u> and <u>Goodwin</u>, the user must rewrite the description of the instruction statement to the instruction statement which explicitly calls the intrinsic function, and rewrite the applicable portion of the operations among the description of the source program to the user-defined instruction function, when the specifications of the processor were extended.[2]

In contrast, Claims 1 and 13 specify that a statement for explicitly calling the intrinsic function is not beforehand embedded in a body of the input source program since the definitions of the intrinsic function is placed independently of the input source program, and the program for compiling is built only once since changing the user-defined machine instructions does not require for rebuilding the program for compiling. In this way, it is possible to optimize the instruction statement, which performs the processing operations equivalent to the user-defined intrinsic functions, to the machine instructions according to this intrinsic function, even if the explicit calling of the user-defined intrinsic function is not embedded in the source program 1.[3] Further, the user can program without being conscious of the user-defined hardware during the programming of the source program 1. Furthermore, the user does not need to replace the program description of the applicable portion defined by the user to an intrinsic function, after introducing the user-defined hardware into the specifications of the processor. Therefore, it is possible to prevent the mistake accompanying replacement, and thus to reduce the time required for the development.[4]

This operation effect is not expectable from <u>Hayashida</u> or <u>Goodwin</u> individually, nor in any combination of <u>Hayashida</u> and <u>Goodwin</u>.

Thus, <u>Hayashida</u> and <u>Goodwin</u>, neither alone, nor in combination, teach or suggest the claimed structure recited in independent Claims 1 and 13. Therefore, independent Claims 1 and 13 are believed to be patentable over the applied references.

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[2] *See*, specification, p. 2, l. 24-p. 3, l. 23.
[3] <u>Id.</u>, p. 21, ll. 14-20.
[4] <u>Id.</u>, p. 30, l. 22-p. 31, l. 3.

Claims 2-12 and 14-19, each ultimately dependent from Claims 1 and 13, respectively, are believed to be patentable over the applied references for at least the reasons discussed above.

Therefore, Applicant respectfully requests that the rejection of Claims 1-19 under 35 U.S.C. § 103(a) be withdrawn.

In the Office Action, Claim 20 is rejected under 35 U.S.C § 103(a) as unpatentable over Hayashida and Goodwin in view of Curreri. In response to this rejection, Applicant respectfully submits that amended independent Claim 20 recites novel features clearly not taught or rendered obvious by the applied references.

Similar to Claims 1 and 13, Claim 20 is amended to recite, *inter alia*, that:

> a statement for explicitly calling the intrinsic function is not beforehand embedded in a body of the input source program since the definitions of the intrinsic function is placed independently of the input source program, and the program for compiling is built only once since changing the user-defined machine instructions does not require for rebuilding the program for compiling.

As discussed above with regard to independent Claims 1 and 13, Hayashida and Goodwin, neither alone, nor in combination, teach or suggest the above noted configuration recited in amended independent Claim 20.

Moreover, Curreri merely describes a simulator configured to debug the application program compiled by the compiler.
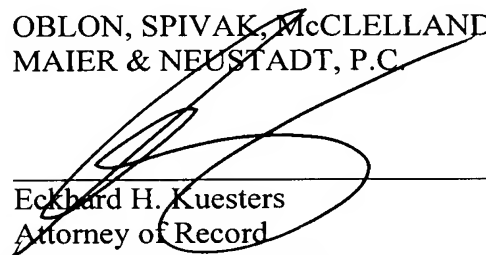
Thus, Hayashida, Santhanam and Goodwin, neither alone, nor in combination, teach or suggest the above noted features recited in independent Claim 20.

Therefore, Applicant respectfully requests that the rejection of Claim 20 under 35 U.S.C. § 103(a) be withdrawn.

Consequently, in light of the above discussion and in view of the present amendment,

the present application is believed to be in condition for allowance. An early and favorable

action to that effect is respectfully requested.

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